Gas in β Pictoris-like Disks

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Since the first observations of the disk surrounding β Pictoris twenty years ago, many aspects of gas disks have been investigated in β Pictoris-like systems. Despite recent progress in our understanding of such systems, new unexpected features have recently been observed and numerous properties are still waiting to be explained. In general, spectroscopic observations show the presence of cometary-like bodies revealed through highly variable absorption signatures. More recently these signatures have also been seen in FUSE spectra of, for example, 51 Oph. In addition to the gas observed to move on short time scales, many systems show the presence of a stable gas component probably linked to the dust. For instance, recent ground-based observations of the β Pictoris system with long slit spectroscopy revealed its radial extent, showing that gas is certainly everywhere mixed with dust. Within this gas disk, CO has been detected with HST; the absence of H_2 revealed by FUSE shows that the CO gas must be produced by the evaporation of a large number of cometary-like bodies. We will also present recent space (HST, FUSE) and ground-based (HARPS) observations which give new information on physical properties, composition and dynamics of the gas surrounding β Pictoris-like stars. We will show that gas is a very important component of "debris disks". The observations of the gas component in such disks give independent clues of intense activity taking place in the first tens of millions of years of planetary systems.